

Comment on 'When in Rome, reform'

In February 2009, *EMBO reports* published an article by Marta Paterlini about the ongoing Italian reforms that aim to improve Italy's research and educational systems by increasing meritocracy and cutting costs. The aims of the reforms seem to be worthy; in particular, one of the objectives is to reward 'productive' researchers at universities or research institutes who are employed on either permanent or limited-contract positions. Professors and permanent researchers will receive bonuses on top of their salaries, while young scientists should be able to obtain permanent positions more easily if they perform good research—as measured by their published results.

The creation of a national database—which has been supported by the Minister for Education, Mariastella Gelmini, and her predecessors—would evaluate productivity and allow for a more efficient and meritorious distribution of public money. Concerning this issue, we would like to raise some points that are peculiar to the situation in Italy.

We believe that the evaluation of published research based on the same indicators that are generally used by the international scientific community—number of publications, journal impact factor and the citation index—is a good proposal. However, such an evaluation should also take into account the specific applications of scientific research—for example, patents—with a view to attracting private investment. Moreover, the government should also provide information—in agreement with the Conference of Italian University Rectors and other research institutions—about how public funds are assigned on the basis of 'productivity' and how these are distributed within the universities. Indeed, in the light of the gradually decreasing public funding for research, it is possible that researchers who contribute to the overall quality of scientific research at their university might find themselves with less financial support than is required

to continue their research projects. In conclusion, a clearer definition of productive research and more transparency regarding the distribution of research funding would be desirable.

Another highly debated aspect of the current reforms is the recruitment of new personnel (Anon, 2008). The reforms intend that applicants for research positions will be assessed by a temporary commission of three full professors, one from the institution and two who are randomly selected from a committee of 12 elected members. The commission will be specific for each institution, which should increase meritocracy and transparency, but it does not improve the status of the so-called 'precari': scientists at universities or research institutions who are supported by fellowships or have time-limited contracts that are renewed—or not—annually. Independent from the recent political changes in Italy, the 2006 financial law proposed a stabilization package for precari, but clearly excluded both annual contracts and fellowships. In fact, this stabilization package was applicable only to technicians and administrative personnel.

Taking into account the costs and that precari can get a permanent position only by overcoming public competition, it is not possible to improve the contractual situation for all Italian scientists. However, the substitution of a permanent research position with a temporary adjunct-professor position—as is currently proposed—is also not the right alternative. Moreover, article 49 of law 133 of August 2008, which concerns the use of flexible contracts, decrees that public administrations, universities and other public research institutions cannot employ the same worker for a period of more than three years in any period of five years, even if the worker applies for a different contract. As the law also proposes cutting costs, it is therefore unlikely that all precari will get a permanent associate professorship, which is necessary given that the role of 'researcher' was eliminated in 2005.

As a result, Italian scientists with annual research contracts or fellowships will have to change their institutions regularly, with the consequence that research projects will

suffer and their chances of gaining permanent employment will decrease further. This situation will also discourage young and promising scientists to an even greater extent, thereby promoting their exodus to other countries—the phenomenon known as 'brain-drain'—rather than preventing it as the reformers claim. Many young researchers will move to countries such as France, Germany, the UK or the USA, which offer more promising job opportunities and better salaries. These countries also have more competitive research environments that are supported by advanced technologies and better funding. Given the international arena in which Italian science policy and funding competes, the migratory flow is unlikely to be stemmed or mitigated by a 'brain-gain'. Moreover, the policy of re-entry proposed in Gelmini's decree cannot substitute for internal policies that should be in place to promote scientific and technological research within Italy, and favour Italian researchers who have already decided to stay.

Given the general crisis of scientific research in Italy—in terms of financial support, job security and research opportunities—we believe that the government should evaluate all aspects of the problem. At the end of the day, scientists not only produce consumer goods; they are crucial to tackling the big questions faced by humanity, and for further advancing and improving the human condition. As such, the country that nurtured the Renaissance should again support science as the foundation of a modern society.

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